

# Investigating the Mediating Effect of Affective Commitment Between Leadership Style, Communication and Project Success in Virtual Projects of Punjab, Pakistan

Dr. Muhammad Mudasar Ghafoor<sup>1</sup> Dr. Yasin Munir<sup>2</sup> Javed Yousaf<sup>3</sup> Hammad Mohsin<sup>4</sup>

1.Head and Assistant Professor, Department of Commerce, University of the Punjab Gujranwala Campus

2.Assistant Professor, Department of Commerce, University of the Punjab Gujranwala Campus

3.Research scholar

4.Lecturer, Department of Commerce, University of the Punjab Gujranwala Campus

## Abstract

Despite growing interest on the issues of communication, leadership style and commitment, studies examining the relationship between all of these three variables are lacking. This paper attempts to address this gap. Nowadays socio-economical changes have significant influence on the project success rate. The motive quantitative correlational research is inspecting relationship among leadership style and communication (independent variable) on project success (dependent variable), having the mediating effect of affective commitment virtual projects. The whole project professionals received 3-part personally administrative questionnaire. For data analysis SPSS 21 and AMOS 21 is used. In SPSS researcher conduct the analysis demographics variables and correlational analysis while in AMOS CFA and Path analysis is tested. Convenience random sampling technique is used for collecting the data. It draws on survey data involving 225 virtual project managers. Response rate is 93.2%. The findings designated statistically significant relationship among leadership style, communication on project success in virtual projects. And affective commitment contributes as mediation in these relationships. This is helpful for virtual project managers for best results.

**Keywords:** leadership style, communication, affective commitment and project success

## 1. INTRODUCTION

The new standard shows up: virtual team. Geographically dispersed teams are testing the conventional leadership roles (Tovey, 2005). Offices experience enormous changes. The expanding pattern towards dispersed project teams makes another perspective of leadership in virtual project teams (Pearce, 2004). Previous investigation on effect of leadership in traditional surroundings was direct on project team (Pauleen, 2003). Virtual project teams distinctive through ICT projects virtual interface geographically dispersed employees (Crom, 2005). Despite the fact that isolated through miles' smooth lands, virtual project teams work firmly together. Virtual project teams to encounter over telephone calls, video conferencing, and email other specialized instruments (Beranek and Martz, 2005). Virtual project teams assume imperative part in molding the future organizations (Reilly et al. 2005). Globalization determines requirement virtual project teams in work environment (Harvey, Novicevic, and Garrison, 2005). The outcome is that manager must comprehend the leadership behavior implication in virtual situation projects (Callan, 2003).

Firms that need to put into practice the virtual projects team to comprehend the particular styles of leadership and control the effect of various leadership styles in virtual environment projects (Beranek and Martz, 2005). Leadership styles literature, particularly transactional and transformational leadership is broad; in any case, just a little number of studies on initiative talk about how leadership style impacts project success (Barbut, 2005). Indeed, fewer researches conducted research on leadership style and project success in virtual project (Dube and Pare, 2004).

This evaluate effectiveness particular management firm can enhance the choice and preparing of leaders of virtual project team. The leadership problem in virtual project teams is inexorably critical problem some firms, especially the individuals who are looking for worldwide development (Chinowsky and Rojas, 2003).

## 1.2 PROBLEM STATEMENT

Failed projects cost organizations large number of dollars every year (Jarman, 2005), and failed management is one primary driver of project failure (Piccoli et al., 2004). The issue is inability to distinguish leadership style and communication that ought to convey passionate arrangement in virtual environment projects may bring about projects that unsuccessful and may antagonistically influence execution of corporate vital objectives and targets (Goodbody, 2005). Researcher wants to check the effect of leadership and communication on success of the virtual project in Punjab.

## 1.3 SIGNIFICANCE OF THE STUDY

Business organizations are turning out to be increasingly worldwide and rivalry from local and foreign sources is

developing altogether (Harvey et al., 2005). Thus, organizations highlight the dispersed virtual project teams (Beranek and Martz, 2005). Virtual project teams permit organizations assemble maximum capable worker's specific projects, irrespective position of employees (Zakaria, Amelinckx, and Wilemon, 2004). Enterprises performing virtual undertaking teams hope to diminish land costs, lessened transportation costs, enhanced profitability, higher benefits, natural advantages, and expanded admission worldwide marketplaces (Piccoli et al., 2004). Information gathered in study may have critical consequences for business associations that want to deploy virtual project teams.

## **2. LITERATURE REVIEW**

### **2.1 Project Success**

Understanding project's success kept creating subsequent to start of 1970. At first, meaning of project success concentrated on estimation of time, expense and nature of projects revenues (Belout and Gauvreau, 2004). As project administration system built up, nature of arranging and points of view all partners ended quantify project success imperative. Understanding the success or failure the project might not same different people in diverse characters. The concept of the project's success is a topic often discussed yet rarely understood through all stakeholders. A literature review revealed two separate perspectives on project success: traditional opinion the triple restraints of time, cost and quality and improved visibility with regard to the different views of all stakeholders of the project (Collins & Baccarini, 2004; Hughes, Tippet, & Thomas, 2004). Among other success criteria may include the satisfaction of stakeholders, contribution to the organization's strategic goals and team satisfaction.

### **2.2 Leadership style**

Leadership is a topic with a broad appeal as most of the people are consciously or unconsciously involved in the process of being influenced or influencing others in the role of leadership. Organization of the future will need leaders who can manage uncertainty and competition in an increasingly diverse workforce achieves organizational profitability (Antonakis, Cianciolo, and Sternberg, 2004). Past literature leadership includes motivating and inspiring (Avolio, 2004), which influences the behavior of others toward group goals (Barbut, 2005), and directs others to achieve concrete results. Lead when shared, is a dynamic, interactive and influential (Kark, Shamir, & Chen, 2003). Because the goal of this study determine how leadership style independent variable influences virtual project team success, dependent variable, an overview of major styles of leadership is needed.

### **2.3 Affective Commitment**

Affective commitment is the sort of commitment to positive communication among association and individual, since they both comparable values and emotionally attached with the organization (Shore and Tetrick, 1991). Those who stayed in organizations with strong commitment to keep up its position and in light of the fact that they require work, as that they need him (Meyer et al., 1993, p. 539). Researchers furthermore concentrate representative work experience demonstrates workers experience is in accordance with desires fulfill their vital needs tendency to create more grounded enthusiastic connection to association (Dunham et al, 1994 (Hackett et al, 1994; Meyer et al., 1993).

### **2.4 Communication**

Interactions within organization are based on the established system of communication among employees, which will be held in four directions of communication flows:

*Vertical flow of communication* is communication among managers and workers. There is a vertical downward - upward communication. The downward vertical communication communicated hierarchy, from the heads of the highest hierarchical level managers. The upward vertical communication or input messages are sent from executors to managers. High level of organizational performance requires effective upward vertical communication, which is difficult to achieve, especially in larger organizational systems. During the organizational communication, top management wants to hear the voice of employees and learn organizational problems, and there through given the opportunity to express their opinions, needs and influence in decision-making (Donnelly, Gibson, Ivancevich, 1998; Markovits et. Al., 2007).

*Horizontal flow of communication* occurs among employees who work in the same or a different organizational unit, and is equal in status, in terms of a hierarchical pyramid structure. It exists in two versions: Solving problems or performing tasks in the department (communication among employees the same department) and activities among departments (among employees from different units) (Kralev, 2001).

*Lateral (diagonal) flow of communication* in an organization is especially important in cases where workers are not effectively communicating through other courses, organizational communication.

*Informal flow of organizational communication* enables informal transmission of information among

employees, through informal, unofficial ways, and serves as a mechanism in certain situations, that is significantly faster than the formal flow of communication system.

## **2.5 Communication and affective commitment**

Generally, few studies analyzed immediate connection among communication and commitment (for instance, Robert and O'Reilly, 1974; van Vuuren et al, 2007; Bambacas and Patrickson, 2008). Notwithstanding, there is restricted group of exploration that focuses to impact of communication organizational commitment. Guzley (1992) found that representative view organizational communication emphatically connected with worker's organizational duty. Varona (1996) found huge positive relationship among communication and organizational commitment of workers.

## **2.6 Affective commitment and project success**

Parsons 1960 related to affective commitment with an individual commitment to "continue and intensify certain activities or type bulk system" (p.172). Nyhan 1999 identified affective commitment as part of organizational effectiveness and employee adoption as an organizational goals and values, which is also known as a success project.

## **2.7 Leadership style and affective commitment**

To increase the organization's top management, employee engagement is to increase employee involvement in decision-making and effective communication. Affective commitment to the organization is considered the baseline. The study described the idea of the organization's commitment to continue separation related costs were made through reference. A relationship between commitment and leadership style has been reported in the organizational and management literature. Nyengane (2007) reported a positive relationship between leader support and commitment.

This view was supported by prior research that showed that organizational commitment was higher for employees whose leaders encouraged participation in decision-making (Nyengane 2007), emphasized consideration (Walumbwa & Lawler, 2003) and were supportive and concerned for their followers' development (Allen & Meyer, 1990).

## **2.8 Communication and project success**

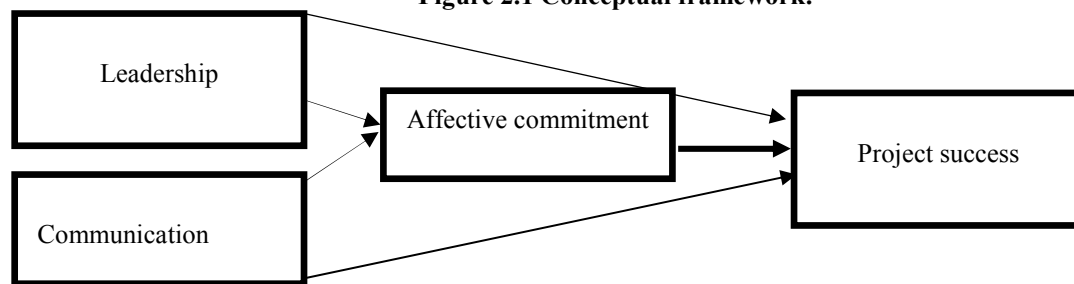
Virtual project teams work firmly together, although numerous miles, time zones and societies separate them. Virtual project teams are under through phone calls, video conferencing, email or other specialized instruments, for example, application sharing (Zhang et al., 2005). Another worldview for leadership appears, and virtual environment exchanging part of leadership abilities (Tovey et al., 2005). For some reasons, with corporate mergers, globalization, need rapidly moving markets and client requests, expanding many-sided quality of innovation, travel expenses, and this pattern toward adaptability in labor, association change from the old methods for working together to another way (Piccoli et al., 2004).

Clean lines of communication vital to success of virtual project team. Without clear lines of communication, mistakes, mistrust, unspoken aspects and unresolved conflicts may occur (Lee-Kelley Crossman, & Cannings, 2004). Zigurs (2003) proposed a virtual project teams could eventually learn how to communicate effectively as a direct team in development intra-group relations.

## **2.9 Leadership style and project success/failure**

Turner & Pearce (2011) were of the view that the leadership style and competencies of leaders are key to successful performance in business; which have been confirmed by other scholars to have a correlation between these and the performance of organizations and companies. Additionally, Zhang (2009) noted that the importance of project leadership to project success may be related to the types of project. Specifically, project complexity has been offered in the literature as having a possible moderating impact on the relationship between project leadership practices and success rates.

Figure 2.1 Conceptual framework:



## 2.10 Research Hypothesis

- H1: There is a significant positive relationship between Leadership Style and affective Commitment.  
H2: There is a significant positive relationship between Leadership Style and Project Success.  
H3: There is a significant positive relationship between Communication and Project Success.  
H4: There is a significant positive relationship between Communication and affective Commitment.  
H5: There is a significant positive relationship between affective Commitment and Project Success.  
H6: There is mediating effect of affective Commitment among Leadership Style and Project Success.  
H7: There is mediating effect of affective Commitment among Communication and Project Success.

## 3. METHODOLOGY

### 3.1 Research and design

Table 3.1 demonstrates the sample description of virtual project team members of different sector demographics (gender, age, Firm Nature, team size, job tenure and project budget). In current study, total of 225 complete questionnaires were after addressing missing values. Researcher use convenience sampling technique. Data collected from the targeted population through questionnaires.

### 3.2 Measurement

- ❖ **Leadership style:** Scale was developed through Bass 1985
- ❖ **Communication:** Scale was developed through Downs & Adrian, 1997
- ❖ **Affective commitment:** Scale was developed through Allen & Meyer (1990)
- ❖ **Project success:** Scale was developed through (Pinto and slevin 1988)

Table 3.1 Demographic Description of Participants

Demographic	Demographic Features	Frequency	Percentage
Age	20-30	13	5.8
	31-40	53	23.6
	41-50	113	50.2
	51 or greater	46	20.4
	Total	225	100.0
Gender	Male	168	74.7
	Female	57	25.3
	Total	225	100.0
Firm Nature	IT	55	24.4
	Telecom	132	58.7
	Manufacturing	23	10.2
	Other	15	6.7
	Total	225	100.0
Team Size	Less than 6 Members	62	27.6
	6-15 Members	135	60.0
	More than 15 Members	28	12.4
	Total	225	100.0
Job Tenure	Less than a year	62	29.38
	1-5 years	97	45.97
	6-10 years	24	11.37
	Above 10 years	11	5.21
	Total	211	100.0
Project Budget	Less than 100,000	22	9.8
	100,000 < 500,000	21	9.3
	More than 500,000	182	80.9
	Total	225	100.0

## 4. DATA ANALYSIS

### 4.1 Reliability

Table 4.1 Reliability Analysis

Description of Variables	Cronbach's Alpha
Leadership style	0.77
Communication	0.86
Affective commitment	0.90
Project success	0.85

### 4.2 Correlational analysis

To find the Pearson's moment correlation, the researcher applied data imputation method to calculate average value of each construct. In previous studies, researchers have computed mean values through SPSS (Laschinger and Grau, 2012; Nixon, Yang, Spector and Zhang, 2011) but in the current study AMOS 21 is used to impute the data. Table 4.2 represents the correlation values of Leadership Style, Communication, Affective Commitment and Project Success. The mean value of leadership style is 3.6067 close to 4 it means majority of respondents agree and .77687 is standard deviation. Leadership style that displays almost 78% disparity amongst responses. Furthermore, leadership style positively significantly correlated ( $r = .637^{**}$ ,  $r = .489$  and  $.611^{**}$ ) with communication, affective commitment and project success at  $P < .01$  respectively. The mean value communication is 3.6200 closes to 4 it means the majority of the respondents were agree and .82952 is the standard deviation of communication which shows 83% variation among responses. Moreover, communication is also significantly correlated ( $r = .637^{**}$ ,  $r = .631$  and  $.628^{**}$ ) with leadership style, affective commitment and project success at  $P < .01$  respectively. The mean value affective commitment is 3.8896 closes to 4 it means majority of respondents agree and .76975 is standard deviation. Affective commitment displays 77% difference between responses. Furthermore, affective commitment is also significantly correlated ( $r = .489^{**}$ ,  $r = .631$  and  $.577^{**}$ ) with leadership style, communication and project success at  $P < .01$  respectively. While the mean value of project success is 3.6200 which also closes to 4 and indicating that overall all the team members are agree and standard deviation of "Project Success" is .82952 which means there is 83% variations in the responses.

Table 4.2 Means, Standard Deviation and Pearson's Moment Correlation

Variables	M	SD	LS	C	AC	PS
LS	3.6067	.77687	1			
C	3.6200	.82952	.637**	1		
AC	3.8896	.76975	.489**	.631**	1	
PS	3.6236	.84277	.611**	.628**	.577**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* $P < .05$ ; \*\* $P < .01$ ; M= Mean; SD= Standard Deviation;

LS= "Leadership Style"; C= "Communication"; AC= "Affective Commitment"; PS= "Project Success"

### 4.3 Factor Analysis

In the current study, the researcher applied confirmatory factor analysis on a sample of 225 responses of team members, total numbers of extracting factors are confirmed through confirmatory factor analysis.

#### 4.3.1 Leadership Style

Like compulsory point testing of conceptual models, suitability computed variables must check. The results of confirmatory factor analysis (CFA) demonstrated one factor in construct of Leadership Style. These factors further confirmed through confirmatory factor analysis through AMOS 21. The construct of leadership style (LS) consisted of 27 items adopted Bass (1985), to investigate the extent to which leadership style can affect project success. In current study, confirmatory factor analysis tested in form combine researcher take leadership style as overall variable that's why researcher selected 15 questions form 3 types of leadership style. The criteria for removing items set on basis of factor loadings and residual values of each item. The factor loadings  $> .30$  or above selected to retain item while  $\pm 2.80$  selected standard value each residual to delete items (Brown, 2006).

Table 4.3: Confirmatory Factor Analysis of "Leadership Style"

Statistics	Fit Indices	Acceptable Threshold value	Single factor Model
Absolute Fit	$\chi^2$	As close as to Zero	96.767
	DF	As close as to Zero	30
	CMIN/ DF	As low as 2 and as high as 5	3.226
	GFI	$> .95$	.910



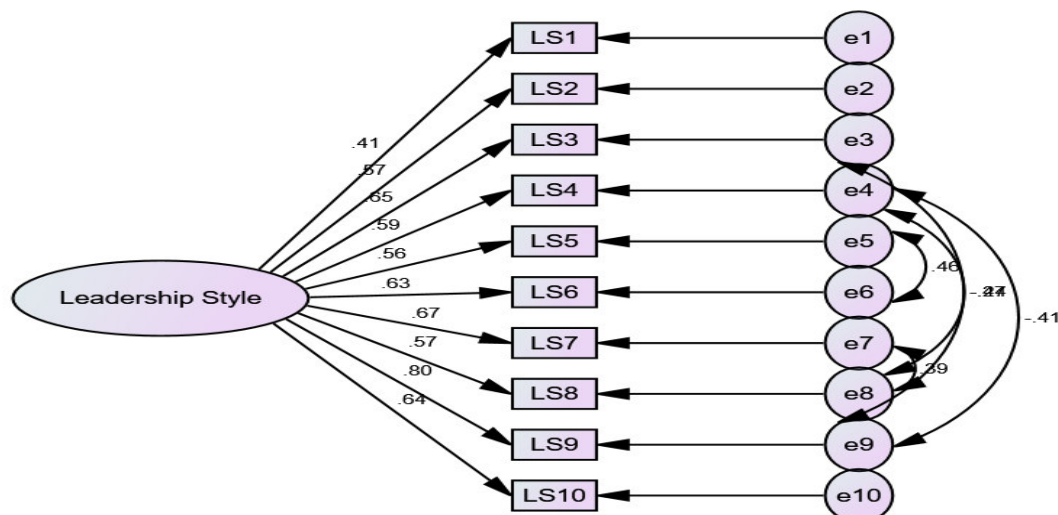


Figure 4.1 CFA model of "Leadership Style"

#### 4.3.2 Affective Commitment

The construct affective commitment (AC) consisted of 7 items adopted Allen & Meyer (1990) to investigate the extent to which virtual project managers perceived that how much strong or weak relation with this variable. In current study, a confirmatory factor analysis tested.

Table 4.4: Confirmatory Factor Analysis of "Affective Commitment"

Statistics	Fit Indices	Acceptable Threshold value	Single factor Model
Absolute Fit	$\chi^2$	As close as to Zero	15.657
	DF	As close as to Zero	4
	CMIN/ DF	As low as 2 and as high as 5	3.914
	GFI	>.95	.978

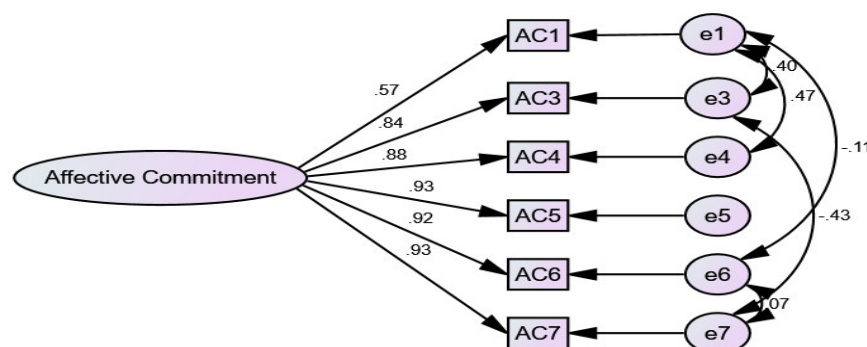


Figure 4.2 CFA model of Affective Commitment

#### 4.3.3 Communication

The construct of communication was consisted of 15 items adopted from (Downs & Adrian, 1997), to investigate the communication of virtual project managers. Results single factor model of communication and all items loaded on single factor. The results of single factor model dramatically extremely good and Chi square value was also in good range. The values of goodness of fit index  $\chi^2/df = 23.875(13)$  not so high and remaining values like GFI=.974. After comparing fit indices in all models, in current study single factor model selected to examine further analysis of communication.

Table 4.5 Confirmatory Factor Analysis of "Communication"

Statistics	Fit Indices	Acceptable Threshold value	Single factor Model
Absolute Fit	$\chi^2$	As close as to Zero	23.875
	DF	As close as to Zero	13
	CMIN/ DF	As low as 2 and as high as 5	1.837
	GFI	>.95	.974
	RMR	<.05	.028

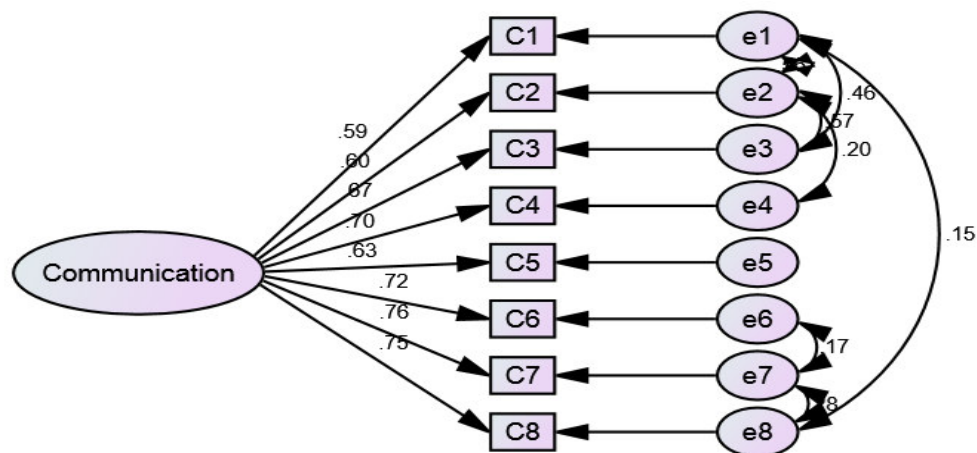


Figure 4.3 CFA Model of Communication

#### 4.3.4 Project Success

The construct of Project Success (PS) was consisted of 12 items adopted from the scale developed through (Pinto and Slevin 1988), to investigate Project Success of virtual project in Punjab, Pakistan. The consequences of model specification demonstrated statistically idealize fit, in satisfactory range. Another try made to get best results, a single factor model of project success tried and every one of 12 items loaded on single component. The aftereffects of post model determination drastically good and Chi square value likewise in great extent. The range of standardized factor loadings in after the model determination are .62 to .76 that entirely satisfactory or more set standard for holding items as appeared in figure 4.23.

Table 4.6: Confirmatory Factor Analysis of "Project Success"

Statistics	Fit Indices	Acceptable Threshold value	Single factor Model
Absolute Fit	$\chi^2$	As close as Zero	77.514
	DF	As close as Zero	35
	CMIN/DF	As low as 2 and as high as 5	2.215
	GFI	>.95	.944

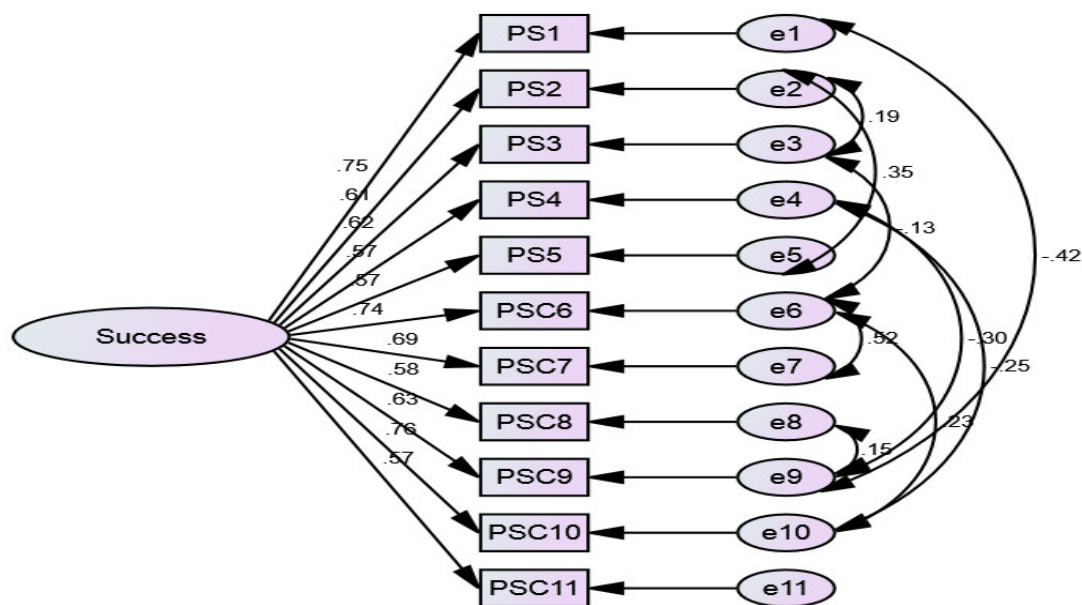


Figure 4.4 CFA Model of Project success

#### 4.4 Structural Equation Modeling (SEM)

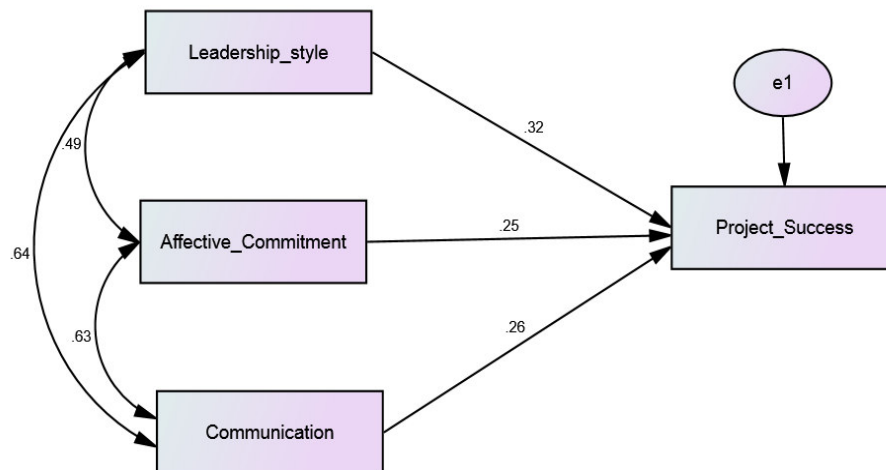
In the current study, structural equation modeling (SEM) is used to present path analysis exogenous and endogenous variables through AMOS 21. Figure 4.5 presents the direct relationship among Leadership Style, Communication, Affective Commitment, and Project Success. To explore there is statistically significant

relationship or not. Structural model developed through utilizing observed variables on premise of hypothetical framework.

#### 4.4.1 Direct Effect

Figure 4.5 presents the standardized direct effects among the “Leadership Style”, “Communication”, “Affective Commitment and “Project Success” among virtual project team members. Table 4.7 shows the significant direct impact of “Leadership Style” ( $\beta = .317$ ;  $P < 0.05$ ), “Affective Commitment” ( $\beta = .255$ ;  $P < 0.05$ ) and “Communication” ( $\beta = .264$ ;  $P < 0.05$ ) on “Project Success”.

**Figure 4.5** Direct Effect of Independent variables on Dependent Variable



**Table 4.7:** Standardized Estimates of Direct Effects

Indications of relationship of variables			Standardized Estimate	S.E.	C.R.	P	Results
PS	<---	LS	.317	.067	5.160	***	Significant
PS	<---	AC	.255	.067	4.169	***	Significant
PS	<---	C	.264	.070	3.822	***	Significant

#### 4.4.2 Indirect Effect

In this research, all direct effects investigated using structural equation modeling then affective commitment included as mediating among relationship of leadership style and project success. Figure 4.6 illustrates that when affective commitment tested among relationship of leadership style and project success, the direct relationship of Leadership Style significant ( $\beta = .317$ ;  $P < 0.05$ ). Table 4.8 displays total effect ( $\beta = .355$ ;  $P < 0.05$ ) of leadership style on project success along mediating effect of affective commitment while indirect effect ( $\beta = .037$ ;  $P < 0.05$ ). Results indicate partial mediation that displays that there exists significant mediating impact of affective commitment among relationship of leadership style and project success in project management team members.

The direct relationship communication significant ( $\beta = .264$ ;  $P < 0.05$ ). Table 4.8 displays the total effect ( $\beta = .402$ ;  $P < 0.05$ ) communication on project success along mediating effect affective commitment while the indirect effect ( $\beta = .137$ ;  $P < 0.05$ ). Results indicate partial mediation that displays that there exists significant mediating impact of affective commitment among relationship of communication and project success in project management team members.

**Table 4.8:** Direct, Indirect and Total Effects of Constructs

Endogenous Variables	Effects	LS	C	AC
Affective Commitment	Direct Effects	.146	.538	.000
	Indirect Effects	.000	.000	.000
	Total Effects	.146	.538	.000
Project Success	Direct Effects	.317	.264	.255
	Indirect Effects	.037	.137	.000
	Total Effects	.355	.402	.255



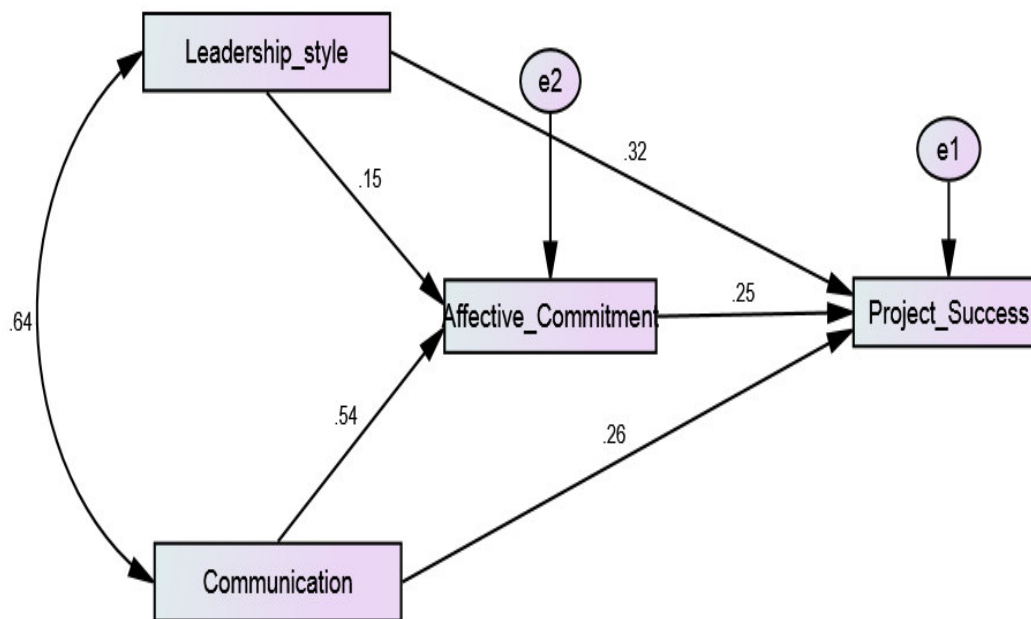


Figure 4.6 Structural Analysis of Path Model

Table 4.9: Summary of results

Research Question	Hypotheses	Results
<b>RQ1: Is Leadership Style a significant predictor of affective Commitment and Project Success?</b>	There is significant positive relationship among Leadership Style and affective Commitment.	Supported
	There is significant positive relationship among Leadership Style and Project Success.	Supported
<b>RQ2: Is Communication a significant predictor of affective Commitment and Project Success?</b>	There is significant positive relationship among Communication and Project Success.	Supported
	There is significant positive relationship among Communication and affective Commitment.	Supported
<b>RQ3: Is affective Commitment a significant predictor of Project Success?</b>	There is significant positive relationship among affective Commitment and Project Success.	Supported
<b>RQ4: Does affective Commitment mediate the relationship among Leadership Style and Project Success, Communication and Project Success?</b>	There is mediating effect of affective Commitment among Leadership Style and Project Success.	Partially Supported
	There is mediating effect of affective Commitment among Communication and Project Success.	Partially Supported

## 5. DISCUSSION AND CONCLUSIONS

Evidence presented shows statistically significant relationship among leadership style and project success in virtual projects. "Initial figures reflect a positive correlation among leadership style and nature of the project success. Based virtual project teams, state cues are harder to read (Reilly et al., 2005)." Some of the qualities attributed to leaders such as charisma and vision, may not translate well into the virtual environment of the project team.

Since virtual project environment may limit many leading features conclusion that the style line could be effective it is understandable. In the current study indicate that the result of communication also plays a very important role in the success of the project. Affective commitment employees are a competitive advantage for the company because they emotionally connect to the enterprise and to put efforts on the project success instead of their personal goals. The study shows that affective commitment has a mediating role among relationship style of leadership and communication on the success of the project.

### 5.1 Limitations

Limited sample size of virtual project managers was selected due to lack of time and resource. This study cross sectional but if conducted in longitudinal approach then the results may be differed. The constraints of study

members agreed to assist intentionally, sample size, and amount of time accessible lead study. Instruments contain questions requiring subjective reactions. This is relative new thing in Pakistan if data is collected through another sampling technique or interview base. Bias

## 5.2 Implications

Findings from the current study are useful for organizations that have created or plan to create a virtual project teams, especially deployment leadership style. These conclusions which can lead practical management strategies and develop new models of management virtual project teams. Leaders can use the knowledge gained from the study in order to improve virtual team project success using the appropriate leadership style. Recruiting and training a virtual team project leader can also improve on the basis of knowledge. The results demonstrate leadership skills and communication are associated with the success of virtual projects.

## 5.3 Recommendations for Further Study

Recommendations for further research include replication study with greater geographic target population and sample testing emerging leadership in virtual project teams, and the inclusion of other variables success of the project, such as risk assessment skills and effective communication. The study was regional in nature, since the target population was limited. Other studies could replicate methodology studies in other parts of the country or the world to see if similar results are obtainable.

The study did not address the difference among the assigned leaders and leaders emerging. Further studies should explore the differences and similarities among the styles of leaders and styles of leaders emerging in virtual teams. The difference among the assigned leadership and the emerging leadership is important. Leadership takeover function is assigned management (Northouse, 2004). Emerging leader has the same status as the other members of the team at first, but gradually emerges as the leader of the team at the moment of time (Bass, 1990). The model could evolve identifying styles leading emerging virtual project teams based on styles of transformational leaders. The present study examined the relationship among leadership style and project success in virtual projects. Failed leadership is one of main causes of project failure (Piccoli et al., 2004). However, other variables, such as risk, technology, culture and language can also contribute to project failure. Future studies should examine effects of other independent variables on success of the project.

## References

- Albright, M. K., & Krlev, N. (2001). Around-the-clock news cycle a double-edged sword. *The Harvard International Journal of Press/Politics*, 6(1), 105-108.
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of occupational psychology*, 63(1), 1-18.
- Antonakis, J., Cianciolo, A. T., & Sternberg, R. J. (2004). Leadership: Past, present, and future. *The nature of leadership*, 3-15.
- Avolio, B. J., Gardner, W. L., Walumbwa, F. O., Luthans, F., & May, D. R. (2004). Unlocking the mask: A look at the process by which authentic leaders impact follower attitudes and behaviors. *The leadership quarterly*, 15(6), 801-823.
- Bambacas, M., & Patrickson, M. (2008). Interpersonal communication skills that enhance organisational commitment. *Journal of Communication Management*, 12(1), 51-72.
- Barbut, F., Decre, D., Lalande, V., Burghoffer, B., Noussair, L., Gigandon, A., ... & Branger, C. (2005). Clinical features of *Clostridium difficile*-associated diarrhoea due to binary toxin (actin-specific ADP-ribosyltransferase)-producing strains. *Journal of medical microbiology*, 54(2), 181-185.
- Belout, A., & Gauvreau, C. (2004). Factors influencing project success: the impact of human resource management. *International journal of project management*, 22(1), 1-11.
- Beranek, P. M., & Martz, B. (2005). Making virtual teams more effective: improving relational links. *Team Performance Management: An International Journal*, 11(5/6), 200-213.
- Callan, C. G., Lee, H. K., McLoughlin, T., Schwarz, J. H., Swanson, I., & Wu, X. (2003). Quantizing string theory in AdS  $5 \times S^5$ : beyond the pp-wave. *Nuclear Physics B*, 673(1), 3-40.
- Checkoway, H., Pearce, N., & Kriebel, D. (2004). *Research methods in occupational epidemiology* (Vol. 34). Oxford University Press, USA.
- Chinowsky, P. S., & Rojas, E. M. (2003). Virtual teams: Guide to successful implementation. *Journal of management in engineering*, 19(3), 98-106.
- Collins, A., & Baccarini, D. (2004). Project success—a survey. *Journal of Construction Research*, 5(02), 211-231.
- Crom, D. B., Hinds, P. S., Gattuso, J. S., Tyc, V., & Hudson, M. M. (2005, November). Creating the basis for a breast health program for female survivors of Hodgkin disease using a participatory research approach. In *Oncology nursing forum* (Vol. 32, No. 6).

- Donnelly, J. H. James L. Gibson in John M. Ivancevich. 1998. Fundamentals of management.
- Dubé, L., & Paré, G. (2004). The multifaceted nature of virtual teams. *Virtual teams: Projects, protocols and processes*, 1-39.
- Dunham, R. B., Grube, J. A., & Castaneda, M. B. (1994). Organizational commitment: The utility of an integrative definition. *Journal of Applied psychology*, 79(3), 370.
- Ghosh, A. P., Gerenser, L. J., Jarman, C. M., & Fornalik, J. E. (2005). Thin-film encapsulation of organic light-emitting devices. *Applied physics letters*, 86(22), 223503.
- Goodbody, J. (2005). Critical success factors for global virtual teams-A look at some of the critical success factors helping to improve the performance of global virtual teams within the BOC Group. *Strategic Communication Management*, 9(2), 18-21.
- Guzley, R. M. (1992). Organizational climate and communication climate predictors of commitment to the organization. *Management Communication Quarterly*, 5(4), 379-402.
- Hackett, R. D., Bycio, P., & Hausdorf, P. A. (1994). Further assessments of Meyer and Allen's (1991) three-component model of organizational commitment. *Journal of applied Psychology*, 79(1), 15.
- Harvey, M., Novicevic, M. M., & Garrison, G. (2005). Global virtual teams: A human resource capital architecture. *The International Journal of Human Resource Management*, 16(9), 1583-1599.
- Hughes, S. W., Tippett, D. D., & Thomas, W. K. (2004). Measuring project success in the construction industry. *Engineering Management Journal*, 16(3), 31-37.
- Kark, R., Shamir, B., & Chen, G. (2003). The two faces of transformational leadership: empowerment and dependency. *Journal of applied psychology*, 88(2), 246.
- Laschinger, H. K. S., Wong, C. A., & Grau, A. L. (2012). The influence of authentic leadership on newly graduated nurses' experiences of workplace bullying, burnout and retention outcomes: A cross-sectional study. *International journal of nursing studies*, 49(10), 1266-1276.
- Lee-Kelley, L., Crossman, A., & Cannings, A. (2004). A social interaction approach to managing the "invisibles" of virtual teams. *Industrial Management & Data Systems*, 104(8), 650-657.
- Markovits, Y., Davis, A. J., & Van Dick, R. (2007). Organizational commitment profiles and job satisfaction among Greek private and public sector employees. *International Journal of Cross Cultural Management*, 7(1), 77-99.
- Mason, D., & Pauleen, D. J. (2003). Perceptions of knowledge management: a qualitative analysis. *Journal of knowledge management*, 7(4), 38-48.
- Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of a three-component conceptualization. *Journal of applied psychology*, 78(4), 538.
- Nixon, A. E., Yang, L. Q., Spector, P. E., & Zhang, X. (2011). Emotional labor in China: do perceived organizational support and gender moderate the process?. *Stress and Health*, 27(4), 289-305.
- Nyengane, M. H. (2007). The relationship between leadership style and employee commitment: An exploratory study in an electricity utility of South Africa.
- Nyhan, R. C. (1999). Increasing Affective Organizational Commitment in Public Organizations. The Key Role of Interpersonal Trust. *Review of Public Personnel Administration*, 19(3), 58-70.
- O'REILLY, R. A. (1974). Interaction of sodium warfarin and rifampin: studies in man. *Annals of internal medicine*, 81(3), 337-340.
- Parsons, T. (1960). Structure and process in modern societies. Free Pr.
- Piccoli, G., Powell, A., & Ives, B. (2004). Virtual teams: team control structure, work processes, and team effectiveness. *Information Technology & People*, 17(4), 359-379.
- Powell, A., Piccoli, G., & Ives, B. (2004). Virtual teams: a review of current literature and directions for future research. *ACM Sigmis Database*, 35(1), 6-36.
- Reilly, R. R., Sobel Lojeski, K., & Dominick, P. (2005). Virtual distance and team performance: A preliminary study. In 20 th Annual SIOP Conference, Los Angeles, April
- Shore, L. M., & Tetrick, L. E. (1991). A construct validity study of the Survey of Perceived Organizational Support. *Journal of applied psychology*, 76(5), 637.
- Tovey, J. (2005). Act Well Thy Part: Performing Technical Writer and Engineer. *Technical Communication*, 52(2), 246-247.
- Turner, R. K. and Pearce, D. W. (2011) 'Sustainable economic development: economic and ethical principles. In Barbier, E. (ed), *Economics and Ecology: New Frontiers and Sustainable Development*. London: Chapman & Hall.
- Varona, F. (1996). Relationship between communication satisfaction and organizational commitment in three Guatemalan organizations. *Journal of Business Communication*, 33(2), 111-140.
- Walumbwa, F. O., & Lawler, J. J. (2003). Building effective organizations: Transformational leadership, collectivist orientation, work-related attitudes and withdrawal behaviours in three emerging economies. *International journal of human resource management*, 14(7), 1083-1101.

- Zakaria, N., Amelinckx, A., & Wilemon, D. (2004). Working together apart? Building a knowledge - sharing culture for global virtual teams. *Creativity and innovation management*, 13(1), 15-29.
- Zhang, Y., Tan, Y. W., Stormer, H. L., & Kim, P. (2005). Experimental observation of the quantum Hall effect and Berry's phase in graphene. *Nature*, 438(7065), 201-204.
- Zhang, Z., 2009. Beyond genetic explanations for leadership: The moderating role of the social environment. Available from. Journal homepage: [www.elsevier.com/locate/obhdp](http://www.elsevier.com/locate/obhdp). *Organizational Behavior and Human Decision Processes* 110 (2009) 118–128
- Zigurs, I. (2003). Leadership in Virtual Teams: Oxymoron or Opportunity? *Organizational dynamics*, 31(4), 339-35.